REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the pending claims and the following remarks.

Amendments to the Claims

Claims 1, 4, 7-13, and 16-20 will be pending in the above-identified application upon entry of the present amendment. Claims 3, 5, and 14-15 have been cancelled herein. Claims 1, 4, 10, and 16 have been amended. Claims 17-20 have been added.

Support for the recitations in claim 1 can be found in claims 3 and 14-15 as well as in the present specification, *inter alia*, at page 21, line 21 to page 22, line 8 and the examples. Support for the recitations in claim 4 can be found in the present specification, *inter alia*, at page 11, lines 20-24 and Example 12. Support for the recitations in claim 10 can be found in claim 16. Claim 16 has been amended to depend only from claim 12. Support for new claim 17 can be found in the present specification, *inter alia*, at page 11, lines 20-24. Support for new claim 18 can be found in the present specification, *inter alia*, at page 10, lines 9-12. Support for new claim 19 can be found in the present specification, *inter alia*, at page 10, lines 9-12 and page 11, lines 20-24. Support for new claim 20 can be found in the present specification, *inter alia*, at page 14, lines 10-13. No new matter has been added.

Applicants submit that the present Amendment is merely formal in nature, reduces the number of issues under consideration, and places the case in condition for allowance. Alternatively, entry of the present amendment is proper to place the claims in better form for appeal.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues over the Cited References

1) The Examiner has rejected claims 1-5 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Freedman '782 (US 5,186,782).

2) The Examiner has rejected claims 1-5 and 7-8 under 35 U.S.C. § 103(a) as being unpatentable over Freedman '782 in view of Argoitia et al. '936 (US 6,749,936).

3) The Examiner has rejected claims 9-16 under 35 U.S.C. § 103(a) as being unpatentable over Freedman '782 in view of Argoitia et al. '936 and further in view of Bergholts et al. '245 (WO 99/61245).

Applicants respectfully traverse, and reconsideration and withdrawal of these rejections are respectfully requested.

The Present Invention

An object of the present invention is to provide a labeled container that can prevent discoloration and deterioration caused by light, can be printed clearly with a design, and yields an excellent appearance of its contents when viewed from outside (page 2, line 23 to page 3, line 4). Another object of the present invention is to provide a heat-shrinkable opaque white film and a shrink label which are useful for preparing the labeled container (page 3, lines 4-6).

As amended, independent claim 1 recites:

> A ***heat-shrinkable opaque white film*** comprising a core layer; and white back and front layers,
>
> wherein ***the core layer comprises at least one colorant selected from the group consisting of black pigments, yellow pigments, red pigments, and brown pigments***, and has a chromatic color with low transparency to light at wavelengths of 380 to 500 nm or an achromatic color,
>
> wherein each of the white front layer and the white back layer independently comprises a white colorant, and the content of the white colorant in each of the front layer and the back layer is 1 to 20 percent by volume of the total volume of each layer,
>
> wherein the film has been prepared by co-extruding back and front layers with a core layer and drawing the coextrudate, wherein ***each of the front layer, the core layer, and the back layer independently is a heat-shrinkable film layer***;
>
> wherein the film has a transmission factor to light at wavelengths of 380 to 500 nm of 5% or less;
>
> wherein the heat-shrinkage percentage of the film is about 20% to about 90% when the film is immersed in hot water at 90°C for ten seconds; and
>
> wherein the W-value of the surface of the heat-shrinkable films is 75 or more (emphasis added).

As another embodiment of the present invention, claim 9 recites:

> The heat-shrinkable opaque white film according to Claim 1, wherein the core layer comprises a black colorant, and the content of the black colorant is $1x10^{-3}$ to 6 percent by volume based on the total volume of the core layer.

As yet another embodiment of the present invention, claim 12 recites:

> The heat-shrinkable opaque white film according to Claim 1, wherein the core layer comprises at least one chromatic colorant selected from yellow pigments, red pigments, and brown pigments, and the content of the chromatic colorant is 0.01 to 20 percent by weight based on the total weight of the core layer.

As shown in claims 7 and 8, examples of distinguishing features of the present invention are:

> 7. A shrink label comprising the heat-shrinkable opaque white film of Claim 1; and a preprinted ink label layer arranged on or above a surface of the front layer of the film.
>
> 8. A labeled container comprising a container body; and the shrink label of Claim 7 arranged on or above the container body.

The heat-shrinkable opaque white film according to the present invention prevents discoloration and deterioration of a container's contents, such as beverages, and enables clear printing of a design on a front layer (page 47, line 5 to page 48, line 3). In addition, the shrink label using the heat-shrinkable opaque white film according to the present invention is very useful as a label that gives an excellent impression of the contents, such as beverages, when applied to a container (page 48, lines 3-7).

Distinctions over the Cited References

In stark contrast, Freedman '782 relates to a method for high-speed labeling of deformable substrates such as squeeze bottles and the like and to the manufacture of film facestocks usable with the method. The method comprises the step of extruding in film form a charge of polymeric material for label stock. However, the film is not a heat-shrinkable film. In addition, the film requires the use of an adhesive. Therefore, Freedman '782 is definitively different from the present invention.

Argoitia et al. '936 disclose achromatic multilayer pigments used in ink, paint, or moldable plastic material with resins such as styrenes (col. 21, lines 1-30) and combined with pigments (chromatic) TiO_2 to produce unique color effects and with carbon black, blue, or aluminum to control lightness and other color properties. The pigment flakes of Argoitia et al. '936 can be used as inks for printing on packaging and containers or can be used to form colored plastic materials, extruded parts, and laminating films (col. 21, line 50 to col. 22, line 36).

Bergholts et al. '245 relate to a packaging material including layers of plastic permanently united with one another and of which at least one layer includes, for the purpose of elevating light-barrier properties, distributed particles of carbon black. Specifically, the reference discloses market bottles which are produced by a combined extrusion/blow molding operation of a triple-layer material, which consists of an interjacent layer having light-absorbing carbon black particles and two outer layers having white pigment titanium dioxide (TiO_2).

As discussed above, claim 1 recites, *inter alia*, "A ***heat-shrinkable opaque white film*** comprising a core layer; and white back and front layers" (emphasis added). None of the cited references disclose a "heat-shrinkable opaque white film." The film described in Freedman '782 is subject to heat-set so that it is stretched, but it does not become heat-shrinkable. Thus, the film is not a heat-shrinkable film.

On page 5 of the outstanding Office Action, the Examiner asserts that Bergholts et al. '245 is a "similar shrinkable" material. However, Bergholts et al. '245 do not disclose a heat-shrinkable opaque white film either.

Furthermore, claim 1 also recites that "the heat-shrinkage percentage of the film is about 20% to about 90% when the film is immersed in hot water at 90°C for ten seconds" and that "the W-value of the surface of the heat-shrinkable films is 75 or more." Since the cited references fail to disclose a heat-shrinkable film, they contain no description regarding the heat-shrinkage percentage of the film or a W-value.

Heat-shrinkable film, as used in the present invention, is known to one of ordinary skill in the art as a film that is loosely wrapped around a material, such as a bottle, and is then shrunk and fixed to the material when heat is applied due to its heat-shrinking character. In contrast, one of ordinary skill in the art would also understand that the term "heat-set" relates to a completely different process.

The technology described in Freedman '782 includes "extruding in film form a charge of polymeric material for label stock, hot-stretching and heat-setting said extruded film" (claim 1). The heat-setting corresponds to the "heat-set" described above. Since the procedure of Freedman '782 is different from typical heat-shrinkable film, the heat-shrinkable film of the present invention cannot be produced through the procedure of Freedman '782.

In addition, Freedman '782 specifically discloses:

> ***The heat-set labels contemplated by the methods of the present invention*** and the die-cut label applications to which the present invention relates ***are to be contrasted with shrink-films***, consisting of stretched, unannealed films, sometimes used in sleeve-labeling applications wherein a sleeve or wrap of shrink film is placed around the circumference of a bottle or can or like container and heated to cause it to shrink into tight, surrounding engagement with the container. Examples of the latter are found in U.S. Pat. Nos. 4,581,262 and 4,585,679. The tendency to shrink causes such film to tend to withdraw from any borders, tending to leave exposed adhesive, a particular disadvantage in die-cut label applications since exposed adhesive is unsightly and tends to catch dust. (col. 1, line 56 to col. 2, line 2; emphasis added).

Similarly, Freedman '782 also recites:

> To the extent that elimination of hot-stretching also eliminates or minimizes the need to anneal or heat-set the film, such step may be eliminated so long as the resulting film exhibits the characteristics of a heat-set or annealed film, i.e. is essentially devoid of "memory" of a pre-existing configuration to which a film tends to return under the influence of heat. The heat set differentially stiffened films of the present invention differ in this respect from "shrink" films of the prior art (col. 11, lines 10-19).

Thus, Freedman '782 fails to disclose a heat-shrinkable opaque white film of the present invention. The other cited references do not overcome this deficiency. In fact, Freedman '782 actually teaches away from using a heat-shrinkable film.

More specifically, Freedman '782 does not disclose a heat-shrinkable opaque white film wherein the core layer comprises at least one chromatic colorant selected from yellow pigments, red pigments, and brown pigments, and the content of the chromatic colorant is 0.01 to 20 percent by weight based on the total weight of the core layer. In addition, even if the disclosure of Freedman '782 is combined with the other cited references, this feature of the present invention cannot be accomplished.

One of the features of the present invention is a heat-shrinkable opaque white film having white back and front layers and a core layer with at least one chromatic colorant selected from yellow pigments, red pigments, and brown pigments. This feature is not described in the cited prior art. A usual film (for instance, one having an ink layer in either the surface layer, the center layer, or the back layer) cannot keep the constant shading and opalescent appearance due to the different shrinkage properties between the layers. Under some specific situations, there is also a possibility that cracking and the like occur. The film of the present invention is able to heat-shrink, remains impervious to light, and does not adversely affect the white appearance of the film according to the composition as recited in claim 1.

For the reasons given above, the present invention is not anticipated by Freedman '782 since the reference does not teach or provide for each of the limitations recited in the pending claims.

Moreover, a *prima facie* case of obviousness has not been established. To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, Freedman '782 in view of the other cited references fails to disclose all of the claim limitations of independent claim 1, and those claims dependent thereon. Specifically, none of the cited references disclose a heat-shrinkable film. Accordingly, the combination of references does not render the present invention obvious. Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, withdrawal of the outstanding rejection is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

CONCLUSION

A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case clearly indicating that each of claims 1, 4, 7-13, and 16-20 are allowed and patentable under the provisions of title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink (Reg. No. 58,258) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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